

1 **ABSTRACT OF THE DISCLOSURE**

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3 A multi-redundant inlaid wiring harness provides for alternate electrical or optical
4 pathways in an aircraft wiring system. A plurality of conduits are inlaid between layers of
5 composite fabric during fabrication of a section of an aircraft. The conduits are connected at
6 their ends to computer-controlled gateway buses. The buses select a pathway between the buses
7 from the number of possible pathways. If the selected pathway is later damaged, the buses select
8 a new pathway and reroute the power or signal over the new pathway. Conduit selection is based
9 on any of several hierarchies including path of least resistance and shortest or fastest path.